

Case 3319

Helix papillaris Müller, 1774 (currently *Papillifera papillaris*; Mollusca, Gastropoda): proposed conservation of the specific name

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Abstract. The purpose of this application, under Article 23.9.3 of the Code, is to conserve the specific name of *Helix papillaris* Müller, 1774 for a pulmonate gastropod (family CLAUSILIIDAE) from southern Europe. The name is threatened by a senior synonym *Turbo bidens* Linnaeus, 1758 for which suppression is proposed.

Keywords. Nomenclature; taxonomy; Mollusca; Gastropoda; CLAUSILIIDAE; *Helix papillaris*; *Turbo bidens*; southern Europe.

1. O.F. Müller (1774, p. 120) established a new species of pulmonate gastropod as *Helix papillaris* based on specimens figured by Buonanni (1681, pl. 41), Gualtieri (1742, pl. 4, figs. D-E) and Ginanni (1757, pl. 3, fig. 23). This species, currently *Papillifera papillaris* (family CLAUSILIIDAE), is widespread in southern Europe and extensively cited in the literature. Forcart (1965) demonstrated that the name previously in use for this taxon, *Turbo bidens* Linnaeus, 1758, was not the correct name for the species. Linnaeus (1758, p. 767) cited a figure from Gualtieri (1742, pl. 4, fig. C) which, according to Forcart (1965), illustrated the shell of another clausiliid *Cochlodina laminata* (Montagu, 1803).

2. Application of the Linnaean name to the species currently known as *Papillifera papillaris* dates from a statement by Schröter (1784, p. 55) on the synonymy of *Turbo bidens*, 'Gualtieri Ind. Testar. taf. 4, fig. D, E. (und nicht fig. C wie Linné vorgiebt, denn diese hat keine Einkerbungen)' which Forcart (1965) regarded as mistaken: 'Turbo bidens Linnaeus ist nur auf den bibliographischen Hinweis 'Gualt. test. t. 4, f. C' begründet, so dass der name *Helix papillaris* Müller für die von Gualtieri (1742, taf. 4, figs. D-E) abgebildete Art gültig ist'. We agree with Forcart for the reason given under para. 4 below.

3. Falkner et al. (2001) used the name *Turbo bidens* for the species known as *Papillifera papillaris* without explanation. Subsequently, Falkner et al. (2002, p. 113) explained that 'Schröter a restreint l'extension du nom à l'espèce taxonomique correspondant à la diagnose [Turbo testa turrita pellucida: anfractibus contrariis sutura subcrenata, apertura postice bidentata], et non à celle de la figure C' which, according to Schröter, Linnaeus selected 'vraisemblablement par erreur' (1) 'Forcart a eu tort de privilégier la figure contre la diagnose, remettent de ce fait en cause près de deux siècles d'application du nom *bidens* pour une clausilie à suture crénelée' and (2) designated the specimen illustrated by Gualtieri (1742, pl. 4, fig. E) as the neotype (Falkner et al., 2002, p. 113).

4. We oppose this conclusion for three reasons. Firstly, Article 72.4 of the Code states that the type series of a nominal taxon of the species group consists of 'all the specimens included by the author in the new nominal taxon (whether directly or by bibliographic references) ...'. It is therefore impossible to accept Schröter's interpretation as valid without clear evidence that Linnaeus quoted the intended figures incorrectly. In the absence of such indications, Schröter's action limited 'extension du nom à l'espèce taxonomique correspondant à la diagnose' to specimens not included by Linnaeus in his species. Secondly, Schröter made the mistake, repeated by Falkner et al., of wrongly interpreting the terms 'sutura subcrenata' in Linnaeus's diagnosis of *Turbo bidens*. It is evident that Schröter and Falkner et al. considered 'crenata' (French: 'crénelée'; German: 'gekerbt') to mean 'papillifera' (French: 'avec petit tubercles papilliformes'; German: 'warzentragend') which is incorrect (for the exact meaning of the Latin terms 'crenata' and 'papillifera', see Rossmässler, 1835, p. 29). Gualtieri's pl. 4, fig. C therefore matches Linnaeus's diagnosis because it shows a shell with suture 'subcrenata' (i.e. faintly notched or milled) and Forcart was right insofar as he identified *Turbo bidens* as a clausiliid species with a reddish shell ('rufescens' in Gualtieri's diagnosis of his fig. C) and with non-papillate sutures. Nevertheless, Forcart's (1965, pp. 122–123) opinion that *Turbo bidens* Linnaeus, 1758 is the same as *Turbo laminatus* Montagu, 1803 (currently *Cochlodina laminata*) cannot be accepted. If Gualtieri's pl. 4, fig. C is an Italian species then more species of *Cochlodina* exist in Italy. If fig. C represents a species from near Florence, where Gualtieri lived, then it is probably *Cochlodina incisa* (Küster, 1876), a common species with a shell very similar to that of *C. laminata* and which, by virtue of the faint ribbing, also has a faint crenulation of the sutures recalling the 'sutura subcrenata' of Linnaeus. Thirdly, Gualtieri (1742) labelled his pl. 4, figs. D–E as '[*Turbo terrestris*] papillis albis in spirarum commissuris'. The white papillae are cited by Müller (1774) in the description of *Helix papillaris*: 'Helix [...] juncturis spirarum punctatis' and 'intersectiones anfractuum fuscescunt, punctis elevatis sive papillis parvis candidis pulchre interstinctae' demonstrating that this conspicuous pattern was cited by early authors as the main character of the species (see also Buonanni, 1681; Ginanni, 1757). It is inconceivable that Linnaeus described the suture of *Papillifera papillaris* merely as 'subcrenata' without mentioning the white papillae.

5. No specimen corresponding to those figured by Gualtieri (pl. 4, figs. C–E) has been identified in the malacological collection of the Museo di Storia Naturale e del Territorio dell'Università di Pisa at Calci which keeps what remains of Gualtieri's collection. Some lots of *Cochlodina incisa* and *Papillifera papillaris* exist but they were collected later. Consequently, no syntypes of *Turbo bidens* exist and therefore neither does the neotype designated by Falkner et al. (2002, p. 113). The nominal clausiliid species *Turbo bidens* is unidentifiable and threatens nomenclatural stability due to the seniority of the Linnaean name. Therefore, suppression of the name *T. bidens* is proposed.

6. There is no problem with the identity of *Helix papillaris* Müller, 1774 (see the clear diagnosis), although no syntypes probably still exist (no material exists in Müller's collection at the Zoological Museum, University of Copenhagen, Denmark, O. Tendal, personal communication, 29.10.03). The two shells illustrated by Gualtieri (1742, pl. 4, figs. D–E) are lost (see para. 4) as are those illustrated by Buonanni (1681,

p. 184, pl. 41) and Ginanni (1757, pl. 3, fig. 23). It is nevertheless useful to designate a neotype. *Papillifera papillaris* has a wide distribution and the status of many populations (more or less morphologically characterized) is currently under debate (see Giusti et al., 1995). Moreover, since Nordsieck (2002) claimed that '*Papillifera solida* and *P. bidens* cannot always be distinguished easily', designation of a neotype from an extant population living in a site corresponding to the area in which Gualtieri lived will enable future morphological and molecular studies to address any possible problems. To objectively define this taxon and fix its identity we hereby designate, under Article 75, the specimen (a shell, MZUF no. 24432) in the Museo di Storia Naturale dell'Università degli Studi di Firenze, Sezione Zoologica 'La Specola' as the neotype of *Helix papillaris* (fig. 1, p. 133).

7. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to suppress the name *bidens* Linnaeus, 1758, as published in the binomen *Turbo bidens*, for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;
- (2) to place the name *papillaris* Müller, 1774, as published in the binomen *Helix papillaris* and defined by the neotype designated in para. 6 above, on the Official List of Specific Names in Zoology;
- (3) to place the name *bidens* Linnaeus, 1758, as published in the binomen *Turbo bidens* and as suppressed in (1) above, on the Official Index of Rejected and Invalid Specific Names in Zoology.

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).



Neotype of *Helix papillaris* Müller, 1774, Firenze, Giardino di Boboli, UTM 32TPP812482, S. Cianfanelli & E. Lori leg. 13.05.2005 (Museo di Storia Naturale dell'Università degli Studi di Firenze, Sezione Zoologica "La Specola", no. 24432) (height of the shell: 15 mm).